

REMARKS

Claims 1, 8, 19, and 27 are amended, no claims are canceled, and claims 29-30 are added; as a result, claims 1-30 are now pending in this application.

Reservation of the Right to Swear Behind References

Applicant maintains its right to swear behind any references which are cited in a rejection under 35 U.S.C. §§102(a), 102(e), 103/102(a), and 103/102(e). Statements distinguishing the claimed subject matter over the cited references are not to be interpreted as admissions that the references are prior art.

§103 Rejection of the Claims

Claims 1, 4-6, 8-25, 27-28 were rejected under 35 USC § 103(a) as being unpatentable over Schmidt (U.S. 6,278,481) in view of Zhou et al. (U.S. 5,909,026). Applicant respectfully traverses. Claim 2 was rejected under 35 USC § 103(a) as being unpatentable over Schmidt (U.S. 6,278,481) in view of Zhou et al. (U.S. 5,909,026) further in view of Komori et al. (U.S. 6,255,690). Claim 3 was rejected under 35 USC § 103(a) as being unpatentable over Schmidt (U.S. 6,278,481) in view of Zhou et al. (U.S. 5,909,026) further in view of Ross (U.S. 5,241,412). Claims 7 and 26 were rejected under 35 USC § 103(a) as being unpatentable over Schmidt (U.S. 6,278,481) in view of Zhou et al. (U.S. 5,909,026) further in view of Kempainen (CMOS Image Sensors: ECLIPSING CCDs in Visual Information?, www.ednmag.com, October 9, 1997).

Obviousness is tested by “what the combined teaching of the references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it “cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination.” *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And “teachings of references can be combined only if there is some suggestion or incentive to do so.” *Id.* (emphasis in original). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicant respectfully traverses the

rejections since the references fail to establish the elements of the claims, and further that the Office Action fails to provide a legally sufficient motivation to selectively combine the references.

Claims 1 - 7

Applicant cannot find in the Schmidt in view of Zhou the combination of elements of claim 1, including a patterned conductive layer adapted to electrically interconnect areas of the monolithic substrate other than the array of non-volatile memory cells, the patterned conductive layer including: an unpatterned level of protective material fabricated over the array of non-volatile memory cells for blocking the light received by the CMOS image sensor so that the trapped charged is not erased from exposure to the light, as recited in claim 1. Claims 2 - 7 contain additional limitations to a patentable base claim 1.

Furthermore, Applicant respectfully submits that the Office Action fails to provide a legally sufficient motivation to combine the references. According to the Office Action, "Therefore, it would have been obvious to use this metal layer as a conductor (patterned conductive layer) for connecting the CMOS imager and other circuits on the substrate in order to reduce cost and size of the camera." Page 3, Office Action. Applicant cannot find any objective support in the references for this assertion.

Applicant submits that this unsupported assertion is a conclusory statement, which fails to provide any objective evidence legally establishing a case of obviousness. According to *In re Sang Su Lee*, "there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant." *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002), citing *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Furthermore, the "factual question of motivation is material to patentability, and could *not* be resolved on *subjective belief and unknown authority*." (Emphasis Added). *In re Sang Su Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002). Applicant submits that the Examiner's conclusion is based on a subjective belief and unknown authority, since no art nor objective teaching was cited.

In addition, the Examiner appears to be taking Official Notice of facts not specifically supported by the Patent and apparently considers such as "well known" or common within the art. Applicant traverses the Official Notice and respectfully requests a patent under MPEP §

2144.03 to support the assertion, an affidavit as required by 37 CFR 1.104(d)(2), or in the alternative, withdrawal of this assertion from the rejection.

Additionally, the rejection appears to rely on facts within the personal knowledge of the Examiner. (i.e. "use of this metal layer . . . for connecting the CMOS imager and other circuits on the substrate in order to reduce cost and size of the camera." Page 3, Office Action. Applicant cannot find support for such a statement in the Schmidt or Zhou, nor is any support provided. Applicant traverses the assertions and respectfully requests an affidavit for the testimony as required by 37 CFR 1.104(d)(2), or removal of the rejection.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. The Examiner must avoid hindsight. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). Applicant respectfully submits that the examiner may be improperly relying on the teachings of the present application for a motivation to combine Schmidt and Zhou. Specifically, applicant can not find where Schmidt or Zhou describe using a patterned conductive layer as both a light shield for the non-volatile memory and as an interconnect between other electrical devices on the substrate. Schmidt does not teach a light shield. Zhou does not teach interconnects made from the same layer as the light shield. Accordingly, Schmidt and Zhou do not provide a teaching or suggestion to make the invention of claim 1. Only by using the present disclosure as a template and picking pieces of Schmidt and Zhou can the presently claimed invention be rejected as obvious in view of Schmidt and Zhou. Withdrawal of the obviousness rejection of claims 1-7 is requested.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985); MPEP § 2141.02. Applicant submits that the Office Action incorrectly fails to address the claims as a whole. Rejected claims 1-7, when properly considered as a whole, provide an invention which is not taught in Schmidt or Zhou.

Claims 8 - 14

Applicant cannot find in the Schmidt in view of Zhou the combination of elements of independent claim 8, including a patterned conductive layer adapted to electrically interconnect areas of the single integrated circuit other than the array of non-volatile memory cells, the patterned conductive layer including: a level of protective material fabricated over the non-volatile memory unit for blocking the light received by the CMOS imager, as recited in claim 8. Claims 9 - 14 depend from claim 8 and hence contain additional limitations to a patentable base claim 8.

Furthermore, Applicant respectfully submits that the Office Action fails to provide a legally sufficient motivation to combine the references to reject claim 8. According to the Office Action, "It would have been obvious to use this metal layer as a conductor (patterned conductive layer) for connecting the CMOS imager and other circuits on the substrate." and "Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the device in Schmidt by the teachings of Zhou et al. in order to prevent incident light from contacting to [sic] the charge stored in memory." Page 5, Office Action. Applicant cannot find any objective support in the references for these assertions.

Applicant submits that these unsupported assertions are conclusory statements, which fail to provide any objective evidence legally establishing a case of obviousness. According to *In re Sang Su Lee*, "there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant." *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002), citing *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Furthermore, the "factual question of motivation is material to patentability, and could *not* be resolved on *subjective belief and unknown authority*." (Emphasis Added). *In re Sang Su Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002). Applicant submits that the Examiner's conclusion is based on a subjective belief and unknown authority, since no art nor objective teaching was cited.

In addition, the Examiner appears to be taking Official Notice of facts not specifically supported by the Patent and apparently considers such as "well known" or common within the art. Applicant traverses the Official Notice and respectfully requests a patent under MPEP § 2144.03 to support the assertion, an affidavit as required by 37 CFR 1.104(d)(2), or in the alternative, withdrawal of this assertion from the rejection.

Additionally, the rejection appears to rely on facts within the personal knowledge of the Examiner, e.g. "it would have been obvious to use this metal layer as a conductor (patterned conductive layer) for connecting the CMOS imager and other circuits on the substrate." Page 5, Office Action. Applicant cannot find support for such a statement in the Schmidt or Zhou, nor is any support provided. Applicant traverses the assertions and respectfully requests an affidavit for the testimony as required by 37 CFR 1.104(d)(2), or removal of the rejection.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. The Examiner must avoid hindsight. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). Applicant respectfully submits that the examiner may be improperly relying on the teachings of the present application for a motivation to combine Schmidt and Zhou. Specifically, applicant can not find where Schmidt or Zhou describe using a patterned conductive layer as both a light shield for the non-volatile memory and as an interconnect between other electrical devices on the substrate. Schmidt does not teach a light shield. Zhou does not teach interconnects made from the same layer as the light shield. Accordingly, Schmidt and Zhou do not provide a teaching or suggestion to make the invention of claim 8. Only by using the present disclosure as a template and picking pieces of Schmidt and Zhou can the presently claimed invention be rejected as obvious in view of Schmidt and Zhou. Withdrawal of the obviousness rejection of claims 8-14 is requested.

Moreover, it appears that the examiner is relying on the fact that Zhou uses a metal for its light shield, then use of such a metal for electrically interconnecting areas of the single integrated circuit other than the array of non-volatile memory cells is obvious. Applicant can not find where in the present record an objective teaching of the claim 8 feature, a patterned conductive layer adapted to electrically interconnect areas of the single integrated circuit other than the array of non-volatile memory cells, the patterned conductive layer including: a level of protective material fabricated over the non-volatile memory unit for blocking the light received by the CMOS imager, is suggested or taught. Withdrawal of the rejection of claims 8-14 is requested.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the

claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985); MPEP § 2141.02. Applicant submits that the Office Action incorrectly fails to address the claims as a whole. Rejected claims 8-14, when properly considered as a whole, provide an invention which is not taught in Schmidt or Zhou. That is, neither Schmidt or Zhou suggest using Zhou's metal layer to electrically interconnect areas of Schmidt's device.

Reconsideration and allowance of claims 8-14 are requested.

Claims 15 - 18

Applicant cannot find in the Schmidt in view of Zhou the combination of elements of independent claim 15, including a patterned conductive layer adapted to electrically interconnect areas of the single integrated circuit, the patterned conductive layer including: a level of protective material fabricated over the non-volatile memory unit for blocking the light received by the CMOS imager, as recited in claim 15. Claims 16 - 18 depend from claim 15 and hence contain additional limitations to a patentable base claim 15.

Furthermore, Applicant respectfully submits that the Office Action fails to provide a legally sufficient motivation to combine the references to reject claim 15. According to the Office Action, "It would have been obvious to use this metal layer as a conductor (patterned conductive layer) for connecting the CMOS imager and other circuits on the substrate." and "Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the device in Schmidt by the teachings of Zhou et al. in order to prevent incident light from contacting to [sic] the charge stored in memory." Page 5, Office Action. Applicant cannot find any objective support in the references for these assertions.

Applicant submits that these unsupported assertions are conclusory statements, which fail to provide any objective evidence legally establishing a case of obviousness. According to *In re Sang Su Lee*, "there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant." *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002), citing *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Furthermore, the "factual question of motivation is material to patentability, and could *not* be resolved on *subjective belief and unknown authority*." (Emphasis Added). *In re Sang Su Lee*, 61 USPQ2d

1430 (Fed. Cir. 2002). Applicant submits that the Examiner's conclusion is based on a subjective belief and unknown authority, since no art nor objective teaching was cited.

In addition, the Examiner appears to be taking Official Notice of facts not specifically supported by the Patent and apparently considers such as "well known" or common within the art. Applicant traverses the Official Notice and respectfully requests a patent under MPEP § 2144.03 to support the assertion, an affidavit as required by 37 CFR 1.104(d)(2), or in the alternative, withdrawal of this assertion from the rejection.

Additionally, the rejection appears to rely on facts within the personal knowledge of the Examiner e.g. "it would have been obvious to use this metal layer as a conductor (patterned conductive layer) for connecting the CMOS imager and other circuits on the substrate." Page 5, Office Action. Applicant cannot find support for such a statement in the Schmidt or Zhou, nor is any support provided. Applicant traverses the assertions and respectfully requests an affidavit for the testimony as required by 37 CFR 1.104(d)(2), or removal of the rejection.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. The Examiner must avoid hindsight. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). Applicant respectfully submits that the examiner may be improperly relying on the teachings of the present application for a motivation to combine Schmidt and Zhou. Specifically, applicant can not find where Schmidt or Zhou describe using a patterned conductive layer as both a light shield for the non-volatile memory and as an interconnect between other electrical devices on the substrate. Schmidt does not teach a light shield. Zhou does not teach interconnects made from the same layer as the light shield. Accordingly, Schmidt and Zhou do not provide a teaching or suggestion to make the invention of claim 15. Only by using the present disclosure as a template and picking pieces of Schmidt and Zhou can the presently claimed invention be rejected as obvious in view of Schmidt and Zhou. Withdrawal of the obviousness rejection of claims 15-18 is requested.

Moreover, it appears that the examiner is relying on the fact that Zhou uses a metal for its light shield, then use of such a metal for electrically interconnecting areas of the single integrated circuit other than the array of non-volatile memory cells is obvious. Applicant can not find

where in the present record an objective teaching of the claim 15 feature, a patterned conductive layer adapted to electrically interconnect areas of the single integrated circuit, the patterned conductive layer including: a level of protective material fabricated over the non-volatile memory unit for blocking the light received by the CMOS imager, is suggested or taught. Withdrawal of the rejection of claims 15-18 is requested.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985); MPEP § 2141.02. Applicant submits that the Office Action incorrectly fails to address the claims as a whole. Rejected claims 15-18, when properly considered as a whole, provide an invention which is not taught in Schmidt or Zhou. That is, neither Schmidt or Zhou suggest using Zhou's metal layer to electrically interconnect areas of Schmidt's device.

Reconsideration and allowance of claims 15-18 are requested.

Claims 19-26

Claims 19-26 are believed to be allowable for at least substantially similar reasons as stated above with regard to claim 1. Reconsideration and allowance of claims 19-26 are requested.

Claims 27-28

Claim 27 recites in part, "fabricating a light blocking and patterned electrically conductive layer over the array of non-volatile memory cells such that the light blocking and patterned electrically conductive layer blocks light from the array of non-volatile memory cells and provides electrical interconnects on the integrated circuit." This feature is not taught or suggested in Schmidt or Zhou. Specifically, neither Schmidt or Zhou teach fabricating a layer that is both light blocking and electrically conductive to form electrical interconnects. Applicant incorporates the arguments made above as support for the allowability of claims 27-28.

Reconsideration and allowance of claims 27-28 are requested.

New Claims

Claims 29-30 are added and believed to be supported by the specification. Moreover, claims 29-30 depend from claim 1 and are believed to be allowable therewith. Entry and consideration of claims 29-30 are requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 349-9587) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

CHRISTOPHE J. CHEVALLIER

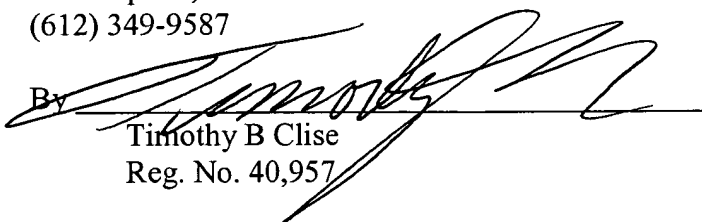
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 16th day of October, 2003.

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